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(54) Title: NOVEL BACILLUS mHKcel CELLULASE

## ORF Nucleotide sequence of mHKcel cellulase gene

ATGGGTTATA	CCCAAGCTAA	GTGTATGGTG	AAAAAACGG	TCTTGTGTTGG	50
TTAATTCTCT	TGTTTAGGTG	TGTCAATGTT	TGTACCAAGT	ACATCAGCTG	100
AAGATAGGGT	CTCTTCGTCA	CAGGTGGATA	TCCAATCATA	TGTAGCAGAT	150
ATGCAACCTG	GCTGGAAATT	AGGTAATACA	TTTGATGCGA	TAGGAGATGA	200
TGAAACAGCA	TGGGGAACCC	CTCGTGTAAC	GAGAGAATTA	ATAGAAATGA	250
TTGCTGATGA	AGGGTATAAA	AGTATTGCTA	TCCCAGTCAC	ATGCAAAAT	300
CAATGGGTG	GTTCTCCAGA	TTATACAATT	AATGARGATT	ATATCAAGCG	350
GGTAGAGCAA	GTGATAGATT	GGGCGTTGGA	GGAAGACTTG	TATGTGATGT	400
TAAATGTGCA	TCATGACTCA	TGGCTGTGGA	TGTATGATAT	GGAAACATAAC	450
TATGATGAGG	TGATGGCAAG	ATATACAGCT	ATTGTTGGAA	AAATGTGCGA	500
AAAAATCAAA	AACCACTCCC	ATAAGTTGAT	GTTTGAGAGT	GTCAATGAGC	550
CTAGGTTTAC	GCAGGAGTGG	GGAGAGTTTC	AAGAAAATCA	TCATGCTTAC	600
TTAGAAAGAT	TAAATAAGAC	GTTCATTAT	ATTGTCAGAG	AGTCAGGAGG	650
CAATAATGTG	GAGCGCCCTT	TAGTATTGCC	TACGATAGAA	ACAGCCACGT	700
CTCAGGATTT	ACTAGATCGC	TTGTATCAAA	CAATGGAAGA	CTTGGATGAC	750
CCTCATTTAA	TTGCCACGGT	TCATTATTAT	GGCTTTTGGC	CCTTTAGTGT	800
CAATATAGCA	GGGTACACCC	GTTTGAACA	GGAGACACAA	CAAGATATTA	850
TAGACACGTT	TGACCGTGTT	CATAACACAT	TTACAGCGAA	TGGGATCCCA	900
GTTGTATTAG	GTGAATTGCG	TTTGTAGGC	TTTGATAAAA	GTACGGACGT	950
CATTACAGCA	GGTGAGAAAT	TAAAATTTT	TGAGTTTCTC	ATCCATCATC	1000
TCAATGAACG	TGATATAACC	CATATGTTAT	GGGATAACGG	TCAGCATTTA	1050
AAGCGAGAAA	CTTATTTCATG	GTATGATCAG	GAATTTTCATG	ACATATTAAA	1100
AGCGAGTTGG	GAGGGGCGTT	CTGCTACAGC	TGAGTCTAAT	TTCATTTCATG	1150
TGAAGGACGG	AGAGCCAAAT	AGAGATCAAC	ATATACAGCT	TTACTTAAAC	1200
GGAAATGAGC	TAACTGCCCT	ACAGGCAGGG	GACGAATCGC	TGTACTAGG	1250
AGAGGATTAT	GAGCTAGCAG	GAGACGTATT	AACGCTAAAA	GCGGGCATCC	1300
TCACAAGATT	AATTACCCCT	GGCCAATTAG	GAACGAATGC	GGTCATCACA	1350
GCTCAATTTA	ATTCTGGAGC	AGACTGGCGT	TTTCAATTAC	AGAAATGTGGA	1400
CGTGCCARCA	GTCGAAAATA	CAGATGGCTC	AATATGGCAT	TTTGGCATCC	1450
CTACCCATTT	TAAATGGTGT	AGTCTTGCGA	CGATGGAAGC	TGTTTATGCA	1500
AACGGAGAAAT	ATGCTGGCCC	GCAAGATTGG	ACGTCATTTA	AAGAATTTGG	1550
CGAGGCGTTT	TCCCCTAATT	ACGCCACAGG	GGAAATTTAT	ATAACAGAAG	1600
CCTTCTTTAA	CGCGGTACGG	GATGATGATA	TCCATTTAAC	ATTTCAATTAT	1650
TGAGCGGAG	AGACGGTGGG	ATATACATTA	CGTAAAAATG	GAAATTATGT	1700
TCAAGGTAGA	CGGTAA				1715

(57) Abstract: The present invention provides a novel cellulase nucleic acid sequence, designated mHKcel, and the corresponding mHKcel amino acid sequence. The invention also provides expression vectors and host cells comprising a nucleic acid sequence encoding mHKcel, recombinant mHKcel proteins and methods for producing the same.

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